

LONG TERM NO-TILL

N. C. Practice Job Sheet 778

Prepared for: _____

Prepared by: _____

Farm: _____

Tract: _____

Date: _____



Example of heavy ground cover required for long-term no-till. The full range of benefits from conservation tillage, both economic and environmental, cannot be realized without surface cover as shown above.

DEFINITION

Planting all crops for at least five consecutive years in at least 80% residue cover from the existing crops, and/or cover crops, with no soil surface width disturbance greater than 25% of the row spacing.

PURPOSE

To reduce wind and water erosion; improve rainfall infiltration; improve soil quality; improve ground and surface water quality; and to reduce agricultural inputs required to produce food and fiber.

CRITERIA

The following criteria must be met:

1. A minimum of 80% ground cover is required at planting. The line transect method is to be used to determine percent ground cover, and is described on page 3.
2. Any tillage needed for restrictive layer management, herbicide applications, etc., is allowed; however, the 80% ground cover must be met.
3. The five year period for long term no-till begins with the first crop at planting time and ends with the last crop at harvest.
4. Soil disturbance during the harvest of crops should be held to a minimum.
5. Soil tests should be made every 2-3 years. Sample to a depth of 4 inches following NCDA guidelines.
6. Removal of ground cover by haying, grazing, harvesting, or gleaning, etc. will not leave enough ground cover to meet the 80% required.
7. Cover crops must be allowed to reach maturity levels as follows: legumes, early bloom; grains, boot.

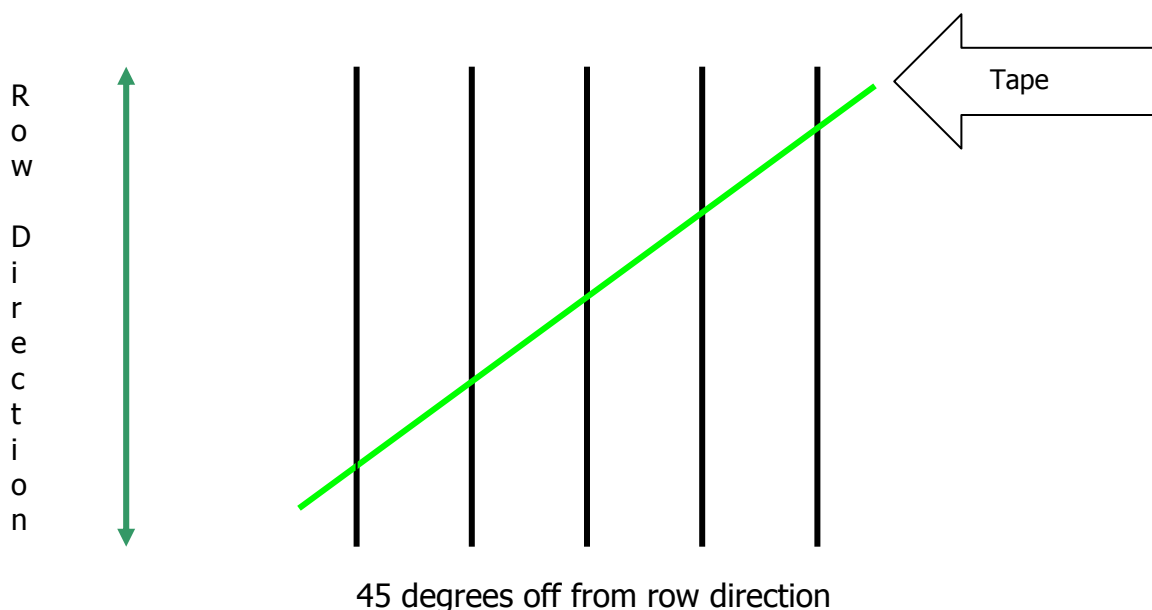
OPERATION AND MAINTENANCE

1. Monitor for weed shifts, such as perennial species replacing annuals.
2. Harvesting will sometimes result in rutted fields. Disking is to be a last resort. **Before any smoothing is done, contact the local office for guidance.**

ESTIMATING PERCENT GROUND COVER USING THE LINE TRANSECT METHOD

The line transect method has proven most effective in estimating the percent ground cover by plant residue. The following is the recommended procedure for using the line transect method.

- ❖ Use a commercially available 50 or 100 foot long tape or chain which has one-foot intervals clearly marked.
- ❖ Select an area that is representative of the field as a whole and stretch the line out across the rows. Lay the tape at a 45 degree angle off the row direction.



- ❖ Walk along the line, stopping at each one-foot mark, using the same edge of the line for all sightings. Looking straight down, determine whether a piece of residue is **directly beneath** the mark. Count the number of marks under which is seen a piece of residue large enough to intercept a raindrop. A rule of thumb is to count only residue which is 3/32 inch wide. Do not move the line while counting.
- ❖ When using a line with 100 marks, the per cent residue cover is equal to the number of marks under which a piece of residue is counted. Double the number for a 50-foot line.

The United States Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, DC 20250, or call 1-800-245-6340 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer. To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.